AURUM ACADEMY
GLOBAL

SCIENCE WORKBOOK

ELECTRICITY

Grade 6 | Ontario Curriculum

Intermediate Level

Learn. Practice. Apply.

Curriculum Focus: Electrical Phenomena, Energy, and Devices

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1. LEARNING OBJECTIVES

By the end of this workbook, you should be able to:

- Understand what electricity is and distinguish static from current electricity.
- Identify conductors, insulators, and the main parts of simple circuits.
- Explain how electrical energy changes into light, heat, movement, sound, and other useful forms.
- Apply circuit ideas to simple series and parallel arrangements.
- Analyse ways electricity is generated and consider renewable and non-renewable sources.
- Use electricity safely and make responsible choices that reduce unnecessary energy use.
- Explain and apply electricity concepts to everyday situations.

2. WHAT DO YOU ALREADY KNOW?

Exercise 1 – Prior Knowledge

A. Fill in the blanks.

1. A device that uses electrical energy to produce light is a _____.

2. A battery can provide _____ energy to a circuit.

3. Materials such as copper allow electricity to pass through them easily. They are called _____.

4. Rubber is generally a good electrical _____.

5. A circuit must have a complete _____ for current to flow.

B. Think and Answer

6. Name two electrical devices you use every day.

_____

_____

7. What happens when you switch on a lamp?

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8. Have you ever experienced a small electric shock after touching a metal object? Describe what happened.

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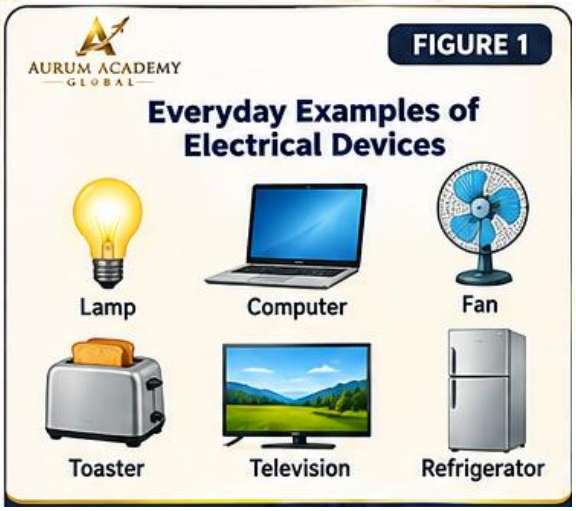
3. INTRODUCTION TO ELECTRICITY

Electricity is a form of energy associated with electric charges. We encounter electricity everywhere: lights, computers, tablets, refrigerators, televisions, electric vehicles, elevators, washing machines, and medical equipment.

Electrical energy can be transformed into many other forms of energy. For example:

- Electric lamp: Electrical energy → Light energy + Thermal energy
- Electric fan: Electrical energy → Mechanical energy + Sound energy + Thermal energy
- Electric speaker: Electrical energy → Sound energy



Did You Know?

Lightning is a spectacular natural example of electrical discharge. A lightning bolt can involve a very large movement of electric charge.

4. STATIC ELECTRICITY

What Is Static Electricity?

Static electricity is the build-up of electric charges on the surface of an object. The charges remain relatively stationary until they find a way to move or discharge.

Everyday examples include a balloon sticking to a wall after being rubbed on hair, hair standing up after rubbing a balloon, clothes clinging together, tiny crackles when removing certain clothing, and small shocks after walking across a carpet and touching metal.

